

What is claimed is

1. A continuously variable magnetodynamic transmission comprising an input rotor (7) driven by a power source and provided with magnets (6) that are evenly distributed along its circumference, said input rotor (7) producing during its rotation a multi-polar magnetic field revolving with it in the ambient space that is surrounded radially outward, through a primary air gap (13), by a coaxial field concentrator (4) forming stationary, magnetically conductive pole shoes, said coaxial field concentrator (4) being surrounded, separated by a secondary air gap (12), by a coaxial stator (2) whose grooves (5) carry windings that are sequentially short-circuitable.
2. A transmission according to claim 1, **characterized in that** the windings of the stator (2) are sequentially short-circuitable in groups, and the number of groups of windings that are switched together corresponds to the number of pole shoes of the input rotor (7).
3. A transmission according to claim 1 or 2, **characterized in that** the number of poles of the input rotor (7) and output rotor (stator 2) is different by 2.
4. A transmission according to claim 3, **characterized in that** the number of poles of the input rotor (7) is 22 poles and that of the output rotor (stator 2) is 24 poles.
5. A transmission according to any of claims 1 through 5, **characterized in that** the field concentrator (4) is implemented in the form of a pole wheel and the individual pole shoes consist of radially oriented permanent magnets (6) between which, evenly distributed along the circumference, a magnetically conductive material is disposed.

6. A transmission according to any of claims 1 through 6, **characterized in that** a control of the sequential switching of the short-circuited conductor loops takes place in the stator (2) according to the equation

$$T = 360/6 + \tan^\circ \quad (5)$$

and that the adjuster is designed modular and consists, per branch, of 4 transistors in H-bridge circuit arrangement and a hall sensor that detects the spatial position of the coil branch relative to the field concentrator poles.

7. A method for operation of a magnetodynamic transmission according to any of claims 1 through 6, **characterized in that** the converter operates using at least one or more of the following operating modes:
- 7.1 In the "neutral" mode all conductor loops are continuously short-circuited so that in this mode a torque-free position is reached independently from other conditions.
- 7.2 In the "drive" mode, three of the six branches are short-circuited. The selection of the two groups determines the driving direction. The shifting of the On and Off switching angles determines the torque.
- 7.3 In the "sum" mode the activated coil branches are actuated with a PWM signal in such a way that the coil current can be raised. This makes it possible to implement the functions "starter" and "booster".

- 7.4 In the "difference" mode the activated coil branches are actuated with a PWM signal in such a way that the coil current can be lowered. This makes it possible to implement the functions "generator" for the vehicle electrical system, or "regenerative braking".
8. A method according to claim 7, **characterized in that** the adjuster, with the input motor running, is synchronized with its frequency, and energy is thus added or removed in this manner at equal-phase or opposed phase voltage in the winding.